38th Annual Meeting, APS Division of Plasma Physics
11-15 November 1996, Denver, CO
Abstract Submittal Form

Deadline: Wednesday, 10 July 1996

Subject Classification Category _____ ☐ Theory ☐ Experiment
(Refer to the DPP Subject Category list on page M19.)

UCRL-JC-124657 Abs

ENERGETICS OF HIGH-TEMPERATURE LASER-DRIVEN HOHLRAUMS T. J. Orzechowski, B. Afeyan, R. L. Berger, R. K. Kirkwood, W. L. Kruer, H. N. Kornblum, B. J. MacGowan, D. S. Montgomery, J. D. Moody, L. V. Powers, M. D. Rosen, P. S. Springer, L. J. Suter, and R. J. Wallace, Lawrence Livermore National Laboratory Livermore, CA and M. A. Blain, CEA-Limeil, Villeneuve-Saint-Georges, FRANCE; For a fixed laser power, the radiation temperature attained inside a laser-driven hohlraum is inversely proportional to the hohlraum size. Thus, to achieve a higher temperature the dimensions of the hohlraum must be reduced. This typically results in higher laser intensity on the hohlraum wall as well as inside the hohlraum. This in turn can lead to higher levels of parametric instabilities (SRS and SBS) and hence reduced absorbed laser power. In this paper we discuss radiation temperature measurements made on various size hohlraums while simultaneously monitoring the incident and reflected laser power. These measurements are compared to Lasnex simulations.
This work was performed under the auspices of the U. S. Department of Energy by Lawrence Livermore National Laboratory under contract W-7405-ENG-48

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